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GENERAL AVIATION STATISTICAL DATABOOK

1992 Edition

FOREWORD

The GENERAL AVIATION STATISTICAL DATABOOK has become a useful tool to those examining our industry.

In order to provide the most current statistics on general aviation, the GAMA Statistical Databook is published as soon as possible after data from the FAA's annual "General Aviation Activity and Avionics" survey is available. We hope you'll keep your DATABOOK handy as a quick reference for all your questions on general aviation.

The General Aviation Manufacturers Association (GAMA) is a national trade association proudly representing 33 American manufacturers of the finest General Aviation aircraft, engines, avionics, instruments, related equipment and components. In addition to building nearly all the General Aviation aircraft flying in the United States today, GAMA member companies also operate aircraft fleets, airport fixed-base operations, pilot schools and training facilities across the nation.

Headquartered in Washington, DC, GAMA represents the interests of its members before the United States Congress, the Department of Transportation, the Federal Aviation Administration and other federal and state government agencies directly concerned with the air transportation system. It also maintains close working relationships with other associations representing various facets of the aviation community. Through its public information and education programs, GAMA promotes better understanding of the air transportation environment and the important role General Aviation plays in the national economy and serving America's transportation needs.

For more information on General Aviation, chartering or buying an aircraft, learning to fly, or joining one of the many aviation organizations serving the community, call or write the GAMA communications office. We are happy to guide you.

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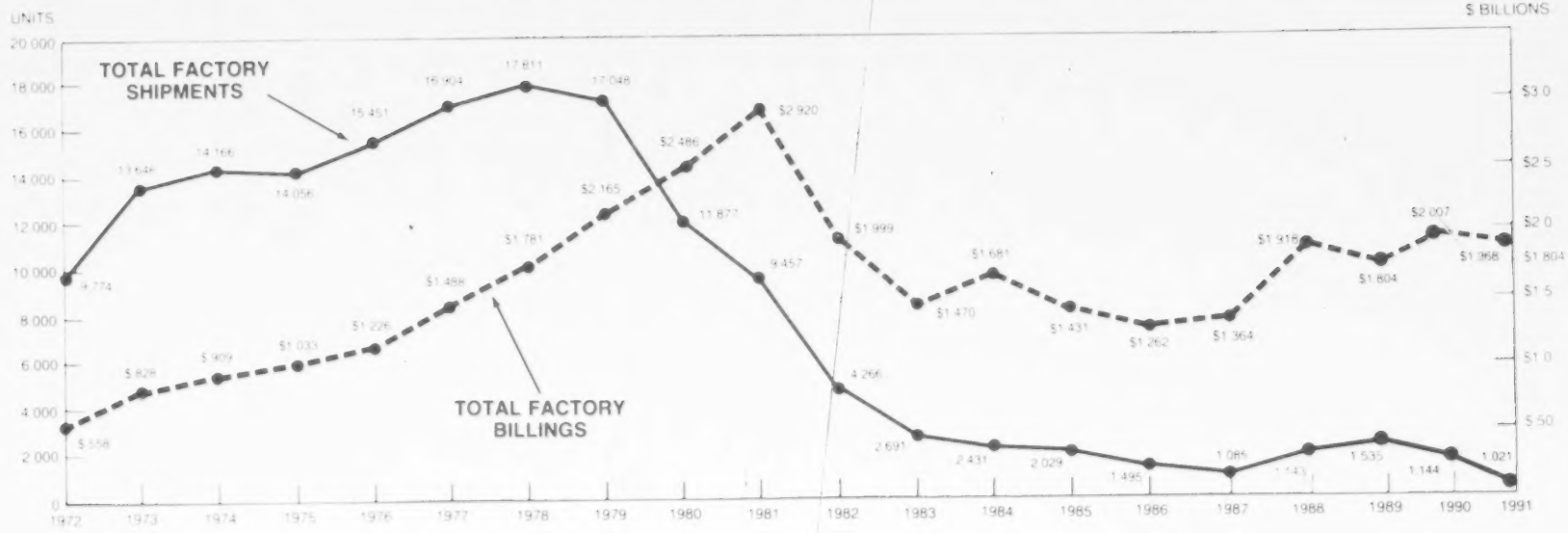
SHIPMENT STATISTICS

Annual Shipments of New U.S. General Aviation Aircraft by Units Shipped, Number of Companies Reporting, and Factory Net Billings

Year	Units Shipped	Companies Reporting	Factory Net Billings (Millions)
1946	35,000	—	$ 110.0
1947	15,594	15	57.9
1948	7,037	12	32.4
1949	3,405	11	17.7
1950	3,386	13	19.1
1951	2,302	12	16.8
1952	3,058	8	26.8
1953	3,788	7	34.4
1954	3,071	7	43.4
1955	4,434	7	68.2
1956	6,738	8	103.7
1957	6,118	9	99.6
1958	6,414	10	101.9
1959	7,689	9	129.8
1960	7,588	8	151.2
1961	6,778	8	124.3
1962	6,697	7	136.8
1963	7,569	7	153.4
1964	9,336	8	198.8
1965	11,852	8	318.2
1966	15,768	10	444.9
1967	13,577	14	359.6
1968	13,698	14	425.7
1969	12,457	14	584.5
1970	7,292	13	337.0
1971	7,466	11	321.5
1972	9,774	12	557.6
1973	13,646	12	828.1
1974	14,166	12	909.4
1975	14,056	12	1,032.9
1976	15,451	12	1,225.5
1977	16,904	12	1,488.1
1978	17,811	12	1,781.2
1979	17,048	12	2,165.0
1980	11,877	12	2,486.2
1981	9,457	12	2,919.9
1982	4,266	11	1,999.5
1983	2,691	10	1,469.5
1984	2,431	9	1,680.7
1985	2,029	9	1,430.6
1986	1,495	9	1,261.9
1987	1,085	9	1,363.5
1988	1,143	9	1,918.4
1989	1,535	11	1,803.9
1990	1,144	14	2,007.5
1991	1,021	14	1,968.3

Source: GAMA

GAMA General Aviation Unit Shipments/Billings



GAMA General Aviation Aircraft Shipments by Type of Aircraft

Year	Total	Single Engine	Multi-Engine	Total Piston	Turboprop	Jet	Total Turbine
1962	6,697	5,690	1,007	6,697	-0-	-0-	-0-
1963	7,569	6,248	1,321	7,569	-0-	-0-	-0-
1964	9,336	7,718	1,606	9,324	9	3	12
1965	11,852	9,873	1,780	11,653	87	112	199
1966	15,768	13,250	2,192	15,442	165	161	326
1967	13,577	11,557	1,773	13,330	149	98	247
1968	13,698	11,398	1,959	13,357	248	93	341
1969	12,457	10,054	2,078	12,132	214	111	325
1970	7,292	5,942	1,159	7,101	135	56	191
1971	7,466	6,287	1,043	7,330	89	47	136
1972	9,774	7,913	1,548	9,446	179	134	313
1973	13,646	10,788	2,413	13,193	247	198	445
1974	14,166	11,579	2,135	13,697	250	202	452
1975	14,056	11,441	2,116	13,555	305	194	499
1976	15,451	12,785	2,120	14,905	359	187	546
1977	16,904	14,054	2,195	16,249	428	227	655
1978	17,811	14,398	2,634	17,032	548	231	779
1979	17,048	13,286	2,843	16,129	639	282	921
1980	11,877	8,640	2,116	10,756	778	326	1,104
1981	9,457	6,608	1,542	8,150	918	389	1,307
1982	4,266	2,871	678	3,549	458	259	717
1983	2,691	1,811	417	2,228	321	142	463
1984	2,431	1,620	371	1,991	271	169	440
1985	2,029	1,370	193	1,563	321	145	466
1986	1,495	985	138	1,123	250	122	372
1987	1,085	613	87	700	263	122	385
1988	1,143	628	67	695	291	157	448
1989	1,535	1,023	87	1,110	268	157	425
1990	1,144	608	87	695	281	168	449
1991	1,021	564	49	613	222	186	408

Source: GAMA

Estimated Value of GAMA General Aviation Aircraft Shipments By Type of Aircraft (In millions)

Year	Single Engine	Multi-Engine	Total Piston	Turboprop	Jet	Total Turbine
1975	$290	$280	$ 570	$ 180	$ 281	$ 461
1976	376	320	696	238	293	531
1977	473	390	863	296	329	625
1978	516	493	1,009	394	378	772
1979	523	555	1,078	548	540	1,088
1980	391	403	794	875	816	1,691
1981	327	348	675	1,120	1,125	2,245
1982	200	220	420	590	990	1,580
1983	145	115	260	460	750	1,210
1984	147	133	280	436	966	1,402
1985	126	68	194	524	713	1,237
1986	80	43	123	430	709	1,139
1987	80	18	98	477	789	1,266
1988	66	12	78	596	1,242	1,838
1989	104	24	128	524	1,149	1,673
1990	68	24	92	644	1,272	1,916
1991	*	*	93	527	1,348	1,875

Source: GAMA

*Multi-Engine Combined with Single-Engine Piston

GAMA General Aviation Aircraft Shipments by Year and Quarter

YEAR	Quarter I	Quarter II	Quarter III	Quarter IV
1962	1,782	1,744	1,329	1,842
1963	1,806	2,000	1,625	2,138
1964	2,156	2,503	1,934	2,743
1965	2,642	3,008	2,859	3,343
*1966	3,855	4,266	3,881	3,585
*1967	3,392	3,480	2,801	3,811
*1968	3,661	3,545	3,282	3,068
*1969	3,297	3,592	2,825	2,693
*1970	1,929	2,099	1,749	1,500
*1971	1,771	1,902	1,903	1,770
1972	2,157	2,564	2,417	2,636
1973	3,246	3,555	3,442	3,403
1974	3,493	3,576	3,488	3,609
1975	3,777	3,562	3,291	3,426
1976	3,949	4,159	3,479	3,864
1977	4,124	4,513	3,985	4,282
1978	4,176	4,621	4,672	4,342
1979	4,259	4,602	4,426	3,761
1980	3,512	2,756	2,796	2,813
1981	2,389	2,631	2,529	1,908
1982	1,390	1,126	890	860
1983	659	709	717	606
1984	523	563	681	664
1985	455	519	581	474
1986	285	364	393	453
1987	227	330	239	289
1988	260	291	252	340
1989	304	361	425	445
1990	269	294	274	297
1991	250	262	237	272

*Quarterly figures do not sum to annual because some manufacturers reported annual shipments only.

Source: GAMA

GAMA General Aviation Aircraft Exports

Year	Units Exported	% of Total Production	Factory Net Billings (Millions)	% of Total Dollars
1965	2,325	19.6%	$ 61.2	19.2%
1966	2,903	18.4%	75.4	16.9%
1967	3,035	22.4%	76.5	21.3%
1968	2,803	20.5%	91.5	21.5%
1969	2,623	21.1%	107.1	18.3%
1970	2,170	29.8%	98.9	29.3%
1971	1,854	24.8%	95.6	29.7%
1972	2,254	23.1%	137.9	24.7%
1973	3,530	25.9%	230.2	27.8%
1974	4,248	30.0%	287.5	31.6%
1975	3,512	25.0%	308.1	29.8%
1976	3,539	22.9%	331.2	27.0%
1977	3,611	21.4%	354.5	23.8%
1978	3,612	20.3%	486.7	27.3%
1979	3,995	23.4%	600.9	27.8%
1980	3,555	29.9%	756.4	30.4%
1981	2,270	24.0%	749.0	25.7%
1982	1,162	27.2%	650.2	32.5%
1983	513	19.1%	316.5	21.5%
1984	334	13.7%	260.7	15.5%
1985	354	17.4%	230.0	16.1%
1986	441	29.5%	343.6	27.2%
1987	439	40.5%	469.3	34.4%
1988	425	37.2%	626.8	32.7%
1989	566	36.9%	587.0	32.5%
1990	458	40.0%	872.2	43.4%
1991	382	37.4%	807.0	41.0%

Source: GAMA

GAMA General Aviation Aircraft Exports by Type

Year	Single Engine	Multi-Engine	Turboprop	Turbojet
1972	1715	455	55	29
1973	2674	732	58	66
1974	3371	732	75	70
1975	2680	644	122	66
1976	2704	669	114	52
1977	2835	594	126	56
1978	2712	652	166	82
1979	2942	774	181	98
1980	2565	635	245	110
1981	1546	363	259	102
1982	718	227	135	82
1983	298	119	66	30
1984	199	79	25	31
1985	208	69	49	28
1986	272	69	68	32
1987	252	60	78	49
1988	220	52	91	62
1989	385	46	78	57
1990	224	57	86	91
1991	204	25	74	79

Source: GAMA

U.S. GENERAL AVIATION FLEET AND FLIGHT ACTIVITY

Number of Active General Aviation Aircraft in 1990 By Type and Primary Use

Aircraft Type	Active GA Aircraft	Corporate	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other	Inactive
Total All Aircraft	212,229	10,906	35,496	120,636	19,889	6,687	5,302	1,525	1,242	6,188	4,358	54,115
Piston—Total	187,773	3,933	33,863	113,429	18,603	5,402	4,011	1,041	643	3,853	2,995	46,285
One-Engine	165,073	1,412	25,615	106,868	17,686	5,152	3,779	951	303	928	2,380	42,311
Two-Engine	22,606	2,521	8,248	6,559	915	234	228	90	284	2,925	603	3,886
Other Piston	94	0	0	3	3	16	4	0	56	0	12	88
Turboprop—Total	5,652	2,861	847	262	38	220	23	16	466	640	280	759
Two-Engine	5,257	2,856	834	224	38	44	22	13	439	547	240	655
Other Turboprop	395	5	12	38	0	176	1	3	28	93	39	104
Turbojet—Total	4,374	3,204	340	115	4	0	17	0	0	374	321	517
Two-Engine	3,950	2,938	329	113	1	0	17	0	0	343	209	355
Other Turbojet	425	266	11	3	3	0	0	0	0	31	112	161
Rotocraft—Total	7,397	863	393	1,369	877	1,065	995	224	126	1,132	355	3,025
Piston	3,459	45	133	1,174	798	723	412	65	2	0	108	2,343
Turbine	3,938	818	260	195	79	342	583	159	124	1,132	247	682
Other—Total	7,032	45	55	5,459	367	0	256	245	7	190	408	3,530

Source: FAA

NOTE: Row and column summation may differ from printed totals due to estimation procedures, or because some active aircraft did not report use.

General Aviation Hours Flown by Aircraft Type and Primary Use 1990 (Thousands of Hours)

Aircraft Type	Total Hours	Corporate	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Carrier	Air Taxi	Other
Total All Aircraft	34,767	3,155	4,784	10,048	7,847	2,028	1,891	619	1,444	2,436	514
Piston—Total	27,973	841	4,453	9,675	7,402	1,647	1,434	422	462	1,379	259
One-Engine	23,697	235	3,210	9,001	7,061	1,591	1,372	406	242	368	210
Two-Engine	4,220	606	1,243	674	341	55	61	15	166	1,010	48
Other Piston	57	0	0	26	62	1,393	425	0	53,894	0	1
Turboprop—Total	2,521	955	184	40	5	91	8	12	888	305	34
Two-Engine	2,351	953	179	37	5	12	7	11	869	251	28
Other Turboprop	170	2	5	3	0	79	0	1	19	55	6
Turbojet—Total	1,512	1,128	97	22	1	0	3	0	0	147	114
Two-Engine	1,385	1,025	91	22	1	0	3	0	0	135	108
Other Turbojet	127	104	5	0	0	0	0	0	0	12	5
Rotorcraft—Total	2,392	227	47	81	397	290	416	164	94	594	83
Piston	775	12	22	45	376	166	129	8	0	0	17
Turbine	1,617	215	25	36	21	124	287	156	94	594	66
Other—Total	369	5	4	229	42	0	31	22	0	11	24

Source: FAA

NOTE: Row and column summations may differ because of independent rounding or because some active aircraft did not report use.

. . . AND BY AGE

Age of the General Aviation Fleet in 1990

Aircraft Type	Engine Type	Seats	U.S. Registered Aircraft	
			Number	Average Age in Years
Single-Engine	Piston	1–3	95,809	27.7
		4	100,009	23.4
		5–7	26,901	19.2
		8 +	403	34.9
		All	223,122	24.8
	Turboprop	All	406	10.6
	Jet	All	289	32.4
Multi-Engine	Piston	0	1	38.0
		1–3	157	28.5
		4	2,049	23.0
		5–7	20,102	21.7
		8 +	6,402	21.8
		All	28,711	21.8
	Turboprop	All	7,658	14.0
	Jet	All	9,426	14.4
All			269,612	23.8

. . . AND BY GEOGRAPHIC AREA

U.S. Active General Aviation Aircraft by Region and State

	1990	1989	1988	1987	1986	1985
ALASKAN	**7,013**	**6,520**	**6,309**	**7,196**	**7,557**	**6,421**
Alaska	7,013	6,520	6,309	7,496	7,557	6,421
CENTRAL	**11,795**	**11,930**	**12,150**	**13,221**	**13,085**	**12,377**
Iowa	2,683	2,622	2,615	2,910	2,683	2,800
Kansas	3,363	3,466	3,500	3,827	4,033	3,855
Missouri	3,891	4,183	4,068	4,358	4,192	3,934
Nebraska	1,858	1,659	1,967	2,126	2,177	1,788
EASTERN	**24,700**	**25,236**	**23,928**	**24,075**	**25,487**	**22,585**
Delaware	1,328	1,537	1,112	827	932	530
D.C.	12	63	35	37	21	50
Maryland	2,952	2,897	3,032	2,660	2,709	2,654
New Jersey	3,860	3,994	3,755	3,899	4,291	3,741
New York	6,273	6,601	5,804	6,431	6,772	6,164
Pennsylvania	6,070	5,956	5,808	5,970	6,405	5,705
Virginia	3,190	3,323	3,291	3,205	3,225	2,741
West Virginia	1,015	865	1,091	1,046	1,132	1,000
GREAT LAKES	**37,312**	**39,383**	**37,436**	**38,623**	**37,838**	**37,417**
Illinois	6,769	7,581	7,276	7,688	7,603	7,155
Indiana	3,897	3,782	4,229	4,098	4,212	4,139
Michigan	7,461	7,875	6,771	7,160	7,060	7,511
Minnesota	4,893	4,750	5,040	4,959	4,507	4,350
North Dakota	1,645	1,637	1,487	1,353	1,615	1,655
Ohio	7,501	7,896	7,388	7,850	7,283	7,686
South Dakota	1,056	1,290	1,192	1,154	1,378	1,227
Wisconsin	4,090	4,572	4,053	4,361	4,180	3,694
NEW ENGLAND	**8,717**	**9,396**	**9,600**	**9,111**	**8,952**	**8,016**
Connecticut	1,919	2,157	2,231	2,016	1,992	1,724
Maine	1,721	1,473	1,307	1,301	1,320	1,039
Massachusetts	3,025	3,265	3,687	3,413	3,248	2,994
New Hampshire	1,173	1,458	1,270	1,338	1,443	1,363
Rhode Island	342	456	486	389	560	220
Vermont	537	587	619	654	388	676

	1990	1989	1988	1987	1986	1985
N.W. Mountain	**21,803**	**21,634**	**19,914**	**21,181**	**22,004**	**20,901**
Colorado	4,452	4,539	3,782	4,374	4,273	4,606
Idaho	1,827	1,998	1,836	2,062	2,274	1,839
Montana	1,834	2,004	1,808	2,154	2,368	1,890
Oregon	5,011	4,353	4,126	4,254	4,543	4,622
Utah	1,348	1,388	1,246	1,070	1,284	1,106
Washington	6,534	6,439	6,281	6,232	6,160	5,740
Wyoming	797	913	835	1,035	1,101	1,098
SOUTHERN	**35,096**	**36,778**	**34,629**	**34,611**	**33,642**	**32,430**
Alabama	3,364	3,347	2,539	2,418	2,673	2,608
Florida	13,290	13,599	13,831	13,614	12,882	12,340
Georgia	4,476	5,340	4,974	4,789	4,517	4,588
Kentucky	1,554	1,606	1,740	1,615	1,738	1,635
Mississippi	1,842	1,954	1,897	2,049	2,060	2,139
North Carolina	4,803	5,208	4,688	4,944	4,386	4,544
Puerto Rico	412	333	72	338	352	233
South Carolina	2,092	2,085	1,988	1,782	1,787	1,700
Tennessee	3,263	3,306	2,900	3,062	3,145	2,643
SOUTHWEST	**28,336**	**30,998**	**29,506**	**30,357**	**32,669**	**32,414**
Arkansas	2,507	2,879	2,354	2,724	2,514	2,687
Louisiana	3,391	3,270	3,250	3,327	3,746	3,674
New Mexico	1,963	2,401	2,224	2,121	2,302	1,942
Oklahoma	3,819	4,127	4,254	3,827	4,147	4,234
Texas	16,656	18,321	17,424	18,358	19,961	19,877
WESTERN-Pacific	**37,352**	**37,749**	**36,702**	**38,370**	**38,764**	**36,481**
Arizona	5,486	5,234	5,118	5,085	5,787	4,796
California	29,316	29,757	28,910	30,982	30,387	29,392
Hawaii	561	519	600	486	366	348
Nevada	1,989	2,239	2,074	1,817	2,219	1,945
Other U.S. Territories	**98**	**97**	**92**	**136**	**107**	**174**
Grand Total	**212,229**	**219,737**	**210,266**	**217,183**	**220,043**	**210,654**

Column totals may differ from printed totals due to estimation procedures.

Source: FAA

FLIGHT HOURS BY TYPE . . .

Estimated Hours Flown in General Aviation by Type of Aircraft
(in Thousands of Hours)

Through December 31	Total	Fixed Wing			Rotocraft		Balloons Dirigibles Gliders
		Piston	Turboprop	Turbojet	Piston	Turbine	
1977	35,791	30,965	1,549	1,165	609	1,259	245
1978	39,409	34,043	1,606	1,194	806	1,421	338
1979	43,340	37,303	1,871	1,259	892	1,664	353
1980	41,016	34,747	2,240	1,332	736	1,603	359
1981	40,704	34,086	2,155	1,387	930	1,754	391
1982	36,457	29,950	2,168	1,611	579	1,771	379
1983	35,249	28,911	2,173	1,473	572	1,700	420
1984	36,119	29,194	2,506	1,566	592	1,903	358
1985	34,063	27,793	2,080	1,622	564	1,590	414
1986	34,416	26,861	2,882	1,654	804	1,821	394
1987	33,443	27,039	2,177	1,528	652	1,631	416
1988	33,593	26,226	2,370	1,678	576	2,131	613
1989	35,015	26,971	3,132	1,654	749	2,080	429
1990	34,767	27,973	2,521	1,512	775	1,617	369

Note: Columns may not add due to rounding and estimation procedures.

Source: FAA

. . . AND PER AIRCRAFT

Active U.S. General Aviation Aircraft and Average Hours Annually Flown Per Aircraft, by Type

	Estimated Active Aircraft					Estimated Average Hours Aircraft Yr.				
	1990	1989	1988	1987	1986	1990	1989	1988	1987	1986
TOTAL AIRCRAFT	**212,229**	**219,737**	**210,266**	**217,183**	**220,044**	**159**	**155**	**154**	**148**	**149**
Piston Total	**187,773**	**234,804**	**187,556**	**194,455**	**195,646**	**148**	**138**	**138**	**137**	**135**
Single engine	**165,073**	**208,082**	**164,760**	**171,035**	**171,777**	**144**	**131**	**133**	**130**	**128**
1–3 seats	60,507	87,836	59,553	63,533	62,427	149	132	132	134	125
4 + seats	104,566	120,246	105,207	107,502	109,351	141	131	134	126	130
Multi-engine	**22,606**	**26,528**	**22,698**	**23,307**	**23,721**	**182**	**195**	**181**	**203**	**204**
1–6 seats	15,186	17,838	15,143	15,741	16,166	163	169	150	165	172
7 + seats	7,421	8,690	7,554	7,566	7,555	231	259	256	289	260
Other Piston	94	194	99	112	148	623	133	225	140	111
Turboprop Total	**5,652**	**6,876**	**5,259**	**5,274**	**5,964**	**424**	**471**	**448**	**389**	**423**
Twin Engine	5,257	6,524	5,057	5,060	5,779	422	467	444	386	419
1–12 seats	4,320	5,082	4,231	4,337	4,809	334	341	373	337	335
13 + seats	937	1,442	826	723	970	1,024	1,044	895	652	1,013
Other Turboprop	395	352	202	214	185	446	569	392	839	499
Turbojet Total	**4,374**	**4,402**	**4,187**	**4,338**	**4,480**	**353**	**375**	**405**	**356**	**354**
Twin Engine	3,950	4,004	3,821	3,900	4,037	359	385	412	371	385
Other	425	398	367	438	444	293	275	347	229	154
Rotocraft Total	**7,397**	**7,475**	**6,406**	**6,333**	**6,943**	**321**	**390**	**423**	**359**	**380**
Piston	3,459	3,244	2,584	2,813	2,921	216	236	228	229	273
Turbine	3,938	4,232	3,822	3,520	4,022	425	497	577	485	460
Other	**7,032**	**7,721**	**6,857**	**6,783**	**7,010**	**52**	**56**	**95**	**62**	**56**

Source: FAA

PILOTS

Active U.S. Pilot and Non-Pilot Certificates Held
(as of December 31, year indicated)

Category	1975	1976	1977	1978	1979	1980[1]	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Pilot—total	**728,187**	**744,246**	**783,932**	**798,833**	**814,667**	**827,071**	**764,182**	**733,255**	**718,004**	**722,376**	**709,540**	**709,118**	**699,653**	**694,016**	**700,010**	**702,659**
Student	176,978	188,801	203,510	204,874	210,180	199,833	179,912	156,361	147,197	150,081	146,652	150,273	146,016	136,913	142,544	128,663
Private	305,863	309,005	327,424	337,644	343,276	357,479	328,562	322,094	318,643	320,086	311,086	305,736	300,949	299,786	293,179	299,111
Commercial	189,342	187,801	188,763	185,833	182,097	183,442	168,580	165,093	159,495	155,929	151,632	147,798	143,645	143,030	144,540	149,666
Airline transport	42,592	45,072	50,149	55,881	63,652	69,569	70,311	73,471	75,938	79,192	82,740	87,186	91,287	96,968	102,087	107,732
Helicopter (only)	4,932	4,804	4,819	4,874	5,218	6,030	6,453	7,034	7,237	7,532	8,123	8,122	8,702	8,608	8,863	9,567
Glider (only)[1]	5,348	5,789	6,208	6,541	6,796	7,039	7,388	7,842	8,157	8,390	8,168	8,411	7,901	7,600	7,708	7,833
Lighter-than-air[1]	3,132	2,974	3,059	3,186	3,448	3,679	2,976	1,360	1,337	1,166	1,139	1,133	1,153	1,111	1,089	[2]
Recreational	N A	N A	N A	N A	N A	N A	N A	N A	N A	N A	N A	N A	N A	N A	N A	87
Nonpilot—total[r]	**323,934**	**334,681**	**348,584**	**362,350**	**377,213**	**393,486**	**382,840**	**399,661**	**413,199**	**426,802**	**395,139**	**410,079**	**427,962**	**448,710**	**468,405**	**492,237**
Mechanic[3]	205,436	212,303	220,768	228,743	237,611	250,157	262,705	277,436	288,335	298,028	274,100	284,241	297,179	312,419	326,243	344,282
Parachute rigger	8,327	8,718	8,994	9,200	9,831	9,547	9,716	9,893	10,074	10,194	9,395	9,535	9,659	9,770	9,879	10,094
Ground instructor	51,365	53,464	55,717	57,738	59,680	61,550	63,246	65,004	66,385	67,463	58,214	59,443	60,861	62,582	64,503	66,882
Dispatcher[3]	5,741	5,838	5,972	6,161	6,446	6,799	7,094	7,580	8,223	8,980	8,511	9,025	9,491	10,020	10,455	11,002
Flight navigator	2,321	2,214	2,155	2,092	1,994	1,936	1,785	1,695	1,636	1,603	1,542	1,512	1,445	1,400	1,357	1,290
Flight engineer	26,788	27,560	29,871	33,028	36,869	38,367	38,294	38,053	38,546	40,534	43,377	46,323	49,328	52,519	55,968	58,687
Flight instructor certificates[4]	44,777	46,236	49,362	52,201	54,398	60,440	57,523	62,492	62,201	61,173	58,940	57,355	60,316	61,798	61,472	63,775
Instrument Ratings[5]	203,954	211,364	226,334	236,312	247,096	260,461	252,535	255,073	254,271	256,584	258,559	262,388	266,122	273,804	282,804	297,073

Source: FAA

[1]Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination within the last 25 months.

[2]Lighter-than-air type ratings are no longer being issued.

[3]Numbers represent all certificates on record. No medical examination required.

[4]Not included in the total.

[5]Special ratings shown on pilot certificates, do not indicate additional certificates.

[r]Revised 1981–1988.

N A Not Available.

Estimated Active Pilots and Flight Instructors by FAA Region and State (December 31, 1990)

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Misc.[2]	Flight Instructor[3]
Total[1]	702,659	128,663	299,111	149,666	107,732	17,487	63,775
United States—Total	**675,296**	**123,667**	**293,980**	**140,560**	**100,655**	**16,434**	**62,365**
Alaskan Region—Total	**9,715**	**1,407**	**4,602**	**2,481**	**1,097**	**128**	**732**
Central—Total	**34,820**	**5,916**	**17,555**	**7,137**	**3,744**	**468**	**3,206**
Iowa	7,334	1,283	4,056	1,432	478	85	638
Kansas	9,426	1,496	4,774	2,035	992	129	877
Missouri	13,057	2,283	6,189	2,496	1,871	218	1,296
Nebraska	5,003	854	2,536	1,174	403	36	395
Eastern—Total	**90,920**	**18,913**	**37,865**	**18,392**	**12,659**	**3,091**	**9,033**
Delaware	1,737	335	709	364	295	34	200
District of Columbia	569	116	248	135	41	29	55
Maryland	10,082	1,961	4,483	2,001	1,347	290	964
New Jersey	14,375	3,021	5,974	2,615	2,246	519	1,434
New York	24,599	5,594	10,473	4,921	2,491	1,120	2,319
Pennsylvania	21,413	4,481	9,185	3,931	3,211	605	2,331
Virginia	15,641	2,844	5,578	3,935	2,847	437	1,506
West Virginia	2,504	561	1,215	490	181	57	224
Great Lakes—Total	**115,339**	**22,317**	**55,648**	**21,968**	**13,623**	**1,783**	**10,993**
Illinois	26,271	4,985	11,946	4,876	4,019	445	2,744
Indiana	12,596	2,614	6,229	2,418	1,184	159	1,180
Michigan	19,958	4,106	9,946	3,558	1,948	400	1,843
Minnesota	16,966	3,067	7,854	3,287	2,561	197	1,504
North Dakota	3,277	600	1,628	906	126	17	291
Ohio	21,755	4,101	10,631	4,213	2,381	429	2,184
South Dakota	2,513	438	1,233	614	209	19	216
Wisconsin	12,003	2,406	6,181	2,104	1,195	117	1,031
New England—Total	**33,135**	**6,659**	**14,742**	**6,030**	**4,757**	**947**	**2,914**
Connecticut	8,643	1,573	3,500	1,551	1,777	242	771
Maine	3,877	828	1,807	824	355	63	296
Massachusetts	12,407	2,726	5,935	2,139	1,192	415	1,087
New Hampshire	4,793	832	1,941	866	1,026	128	470
Rhode Island	1,585	330	748	303	175	34	117
Vermont	1,830	370	816	347	232	65	173
N.W. Mountain—Total	**65,611**	**11,028**	**28,704**	**13,739**	**10,673**	**1,467**	**6,223**
Colorado	16,484	2,454	6,325	3,566	3,649	490	1,940
Idaho	4,367	685	2,181	972	457	72	378
Montana	3,842	626	1,939	926	314	37	356
Oregon	10,429	1,832	5,429	2,127	825	216	900
Utah	6,000	1,231	2,560	1,053	1,037	119	490
Washington	22,548	3,904	9,205	4,723	4,214	502	1,993
Wyoming	1,941	296	1,065	372	177	31	166
Southern—Total	**122,546**	**22,455**	**47,484**	**27,072**	**22,549**	**2,986**	**11,053**
Alabama	9,256	1,714	3,760	2,240	784	758	883
Florida	48,500	8,470	18,491	11,502	9,172	865	4,561
Georgia	18,827	3,145	6,636	3,732	4,952	362	1,505
Kentucky	6,041	1,214	2,528	1,047	1,116	136	568
Mississippi	4,695	939	1,886	1,386	388	96	395
North Carolina	15,574	2,984	6,396	3,126	2,676	392	1,244
South Carolina	7,060	1,534	2,926	1,654	817	129	592
Tennessee	12,593	2,455	4,861	2,385	2,644	248	1,305
Southwest—Total	**81,393**	**13,588**	**33,559**	**18,743**	**13,795**	**1,708**	**7,775**
Arkansas	5,990	1,132	2,646	1,615	525	72	502
Louisiana	7,969	1,448	3,109	2,153	957	302	730
New Mexico	4,897	817	2,133	1,249	564	134	527
Oklahoma	10,702	1,963	5,234	2,352	1,017	136	955
Texas	51,835	8,228	20,437	11,374	10,732	1,064	5,061
Western-Pacific—Total	**121,817**	**21,384**	**53,821**	**24,998**	**17,758**	**3,856**	**10,436**
Arizona	16,219	2,983	6,613	3,520	2,599	504	1,669
California	96,656	16,935	44,120	19,542	13,087	2,972	7,923
Hawaii	3,505	696	893	835	853	228	309
Nevada	5,437	770	2,195	1,101	1,219	152	535
Outside U.S.—Total[4]	**27,363**	**4,996**	**5,131**	**9,106**	**7,077**	**1,053**	**1,410**
Other U.S. Areas	**2,063**	**615**	**664**	**358**	**370**	**56**	**0**
American Samoa	10	1	2	1	5	1	0
Canal Zone	2	0	0	1	1	0	0
Guam	146	20	29	18	73	6	0
Puerto Rico	1,628	530	542	275	236	45	0
Virgin Islands	276	64	91	62	55	4	0
Wake Island	1	0	0	1	0	0	0

Source: FAA

[1]Includes Outside U.S.
[2]Includes helicopter, glider, and recreational. Lighter-than-air type rating is no longer being issued.
[3]Not included in total.
[4]Outside U.S. includes Other U.S. Areas outside of the 50 states and foreign countries.

Age Distribution of Active Airmen by Medical Certificate Class and Sex*
(as of December 31, 1990)

Age	First Class		Second Class		Third Class		Total Airmen	
	Male	Female	Male	Female	Male	Female	Male	Female
Less than 15	1	1	6	—	53	15	60	16
15–19	3,896	481	5,958	698	15,387	2,213	25,241	3,392
20–24	13,155	1,108	16,165	1,123	24,180	2,516	53,500	4,747
25–29	19,682	1,332	19,908	1,115	33,469	3,483	73,059	5,930
30–34	24,753	1,092	19,999	1,080	40,767	3,843	85,519	6,015
35–39	18,741	652	22,708	1,010	43,563	3,849	85,012	5,511
40–44	20,718	305	25,899	832	40,405	3,428	87,022	4,565
45–49	16,373	114	20,407	570	33,682	2,519	70,462	3,203
50–54	12,835	56	14,659	359	25,830	1,603	53,324	2,018
55–59	7,926	24	11,799	276	22,412	1,118	42,137	1,418
60–64	1,469	11	8,025	214	18,496	695	27,990	920
65–69	672	9	5,992	126	11,289	341	17,953	476
70–74	162	1	2,007	51	4,304	92	6,473	144
75–79	27	1	457	16	1,175	23	1,659	40
80–84	2	—	70	1	207	3	279	4
85 and over	—	—	12	—	31	—	43	—
TOTAL	140,412	5,187	174,071	7,471	315,250	25,741	629,733	38,399
Average Age	37.6	29.2	40.5	35.0	40.7	36.4	40.0	35.1

*Totals are based on active certified airmen within the past 25 months.

Source: FAA

Estimated Total and Instrument Rated Pilots: December 31, 1976–90

Calendar Year	Total Active Pilots[1]	Instrument Rated Pilots	
		Number	Percent of Total
1990	573,996	297,073	52
1989	557,466	282,804	51
1988	557,103	273,804	49
1987	553,637	266,122	48
1986	558,845	262,388	47
1985	562,888	258,559	46
1984	572,295	256,584	45
1983	570,807	254,271	45
1982	576,894	255,073	44
1981	584,270	252,535	43
1980	627,238	260,461	42
1979	604,487	247,096	41
1978	593,959	236,312	40
1977	580,422	226,334	39
1976	555,625	211,364	38

Source: FAA

[1]Excludes student pilots.

Active Airmen by Type of Flying[1]

Year	Business		Other		Both	
	Total	Percent	Total	Percent	Total	Percent
1982	204,083	27.9	498,244	68.0	30,187	4.1
1983	195,707	27.3	488,917	68.3	31,234	4.4
1984	197,707	27.4	491,594	68.2	31,806	4.4
1985	206,146	29.4	471,551	67.4	22,352	3.2
1986	215,562	31.1	465,632	67.2	11,564	1.7
1987	220,012	32.1	458,751	66.9	6,789	1.0
1988	221,812	33.4	436,858	65.8	5,338	0.8
1989	224,144	33.6	435,815	65.3	7,573	1.1
1990	224,086	33.5	433,340	64.9	10,705	1.6

Sources: FAA CAMI

[1]Based on pilot responses to a question on the medical certificate application.

Average Age of Active Pilots by Category

Calendar Year	Total[1]	Student	Private	Commercial	Airline Transport
1981	37.8	30.7	39.3	40.7	42.0
1982	38.3	31.2	39.5	41.0	42.3
1983	38.8	31.7	40.0	41.5	42.5
1984	39.2	32.1	40.4	42.0	42.7
1985	39.5	32.4	40.8	42.4	42.8
1986	39.7	32.2	41.1	42.6	43.0
1987	39.9	32.3	41.4	42.7	43.1
1988	40.1	32.5	41.4	42.6	43.2
1989	40.2	32.7	41.8	42.5	43.4
1990	40.5	32.5	42.0	42.2	43.6

[1]Includes helicopter (only), glider (only), and recreational pilots not shown separately.

Pilot Certificates Issued, by Category
1964–1990

Year	Student		Private		Commercial		Airline Transport		Helicopter (only)		Glider (only)	
	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]	Original	Additional[1]
1964	84,629	NA	26,425	4,394	8,772	10,123	983	3,114	344	48	191	NA
1965	94,635	NA	33,337	4,981	11,043	12,557	1,177	4,018	549	74	252	NA
1966	129,180	NA	42,464	5,648	14,210	15,360	1,513	5,571	822	53	316	2
1967	159,399	NA	57,520	8,036	19,996	21,272	2,745	5,726	1,411	105	422	4
1968	149,444	NA	54,232	7,926	20,157	21,795	2,601	4,911	1,433	94	476	17
1969	132,926	NA	54,597	8,096	21,399	25,706	3,469	4,616	2,326	148	521	NA
1970	126,871	NA	53,026	8,374	21,130	25,746	3,745	3,917	4,250	187	652	NA
1971	128,004	NA	49,579	7,775	16,356	22,695	2,439	2,567	3,448	172	611	10
1972	121,543	NA	50,523	8,371	16,043	22,236	2,604	3,410	2,421	263	713	14
1973	131,384	NA	53,140	9,797	16,769	24,823	3,224	4,391	1,719	507	892	131
1974	113,997	NA	48,501	9,866	17,693	24,638	3,219	3,557	1,298	387	832	244
1975	127,424	NA	49,733	9,734	12,620	21,860	2,765	3,370	866	251	230	158
1976	129,280	NA	55,583	12,618	13,577	22,059	3,869	3,910	1,064	276	848	238
1977	203,510	NA	54,657	15,104	11,121	22,806	5,697	6,229	944	328	792	220
1978	137,032	NA	58,064	16,048	11,789	17,501	6,912	5,921	1,122	287	759	188
1979	135,956	NA	54,466	16,466	12,627	17,793	8,981	6,603	1,300	283	642	157
1980	102,301	NA	50,458	16,035	12,452	16,015	7,116	6,289	1,721	272	583	151
1981	111,531	NA	45,713	14,897	10,657	12,146	4,763	5,991	1,985	302	629	164
1982	90,816	NA	52,144	16,276	11,048	11,910	5,037	7,956	2,256	330	793	184
1983	92,239	NA	41,210	12,721	8,789	9,513	5,643	8,187	1,932	315	606	162
1984	90,167	NA	36,545	11,784	7,702	8,892	5,099	9,335	1,808	319	524	139
1985	86,060	NA	35,402	11,636	8,404	7,197	6,081	9,192	2,105	207	537	138
1986	88,699	NA	34,816	12,672	8,889	9,241	6,498	10,372	2,209	234	514	109
1987	85,611	NA	42,278	16,302	11,314	11,365	7,678	11,956	2,217	293	542	74
1988	86,193	NA	39,900	15,800	12,042	10,597	7,461	11,209	1,947	287	475	28
1989	87,698	NA	35,360	22,240	13,759	11,778	7,829	12,698	2,240	252	336	22
1990	88,586	NA	41,749	19,299	15,500	12,584	8,013	13,540	2,700	266	378	41

Source: FAA

Notes: [1]An additional rating added to an existing pilot certificate. (eg an instrument rating added to a private certificate).

AIRPORTS AND AERONAUTICAL FACILITIES

U.S. Civil and Joint-Use Airports, Heliports, Stolports, and Seaplane Bases on Record by Type of Ownership December 31, 1991

FAA Region and State	Total Facilities	Total Facilities, By Ownership		Airports Open to Public Use				
				Paved Airports[1]		Unpaved Airports[1]		Total Airports
		Public	Private	Lighted	Unlighted	Lighted	Unlighted	
Grand Total	**17,581**	**5,090**	**12,491**	**3,555**	**336**	**426**	**928**	**5,245**
United States—Total*	**17,517**	**5,046**	**12,471**	**3,534**	**332**	**426**	**915**	**5,207**
Alaskan—Total	**545**	**389**	**156**	**40**	**5**	**90**	**181**	**316**
Central—Total	**1,453**	**484**	**969**	**383**	**19**	**57**	**63**	**522**
Iowa	290	128	162	94	2	25	18	139
Kansas	394	131	263	101	9	18	20	148
Missouri	462	132	330	113	7	6	12	138
Nebraska	307	93	214	75	1	8	13	97
Eastern—Total	**2,246**	**341**	**1,905**	**326**	**31**	**53**	**96**	**506**
Delaware	34	4	30	5	0	3	1	9
District of Columbia	16	7	9	2	0	0	0	2
Maryland	168	20	148	27	1	6	3	37
New Jersey	329	43	286	36	3	4	8	51
New York	512	86	426	79	13	22	36	150
Pennsylvania	752	76	676	89	6	15	34	144
Virginia	341	76	265	61	5	1	6	73
West Virginia	94	29	65	27	3	2	8	40
Great Lakes—Total	**4,219**	**910**	**3,309**	**734**	**26**	**151**	**175**	**1,086**
Illinois	924	114	810	89	3	22	4	118
Indiana	576	89	487	77	4	8	20	109
Michigan	432	135	297	121	7	32	58	218
Minnesota	477	149	328	102	1	30	17	150
North Dakota	464	98	366	67	3	14	16	100
Ohio	714	135	579	126	3	16	32	177
South Dakota	160	78	82	53	2	15	6	76
Wisconsin	472	112	360	99	3	14	22	138
New England—Total	**662**	**141**	**521**	**117**	**17**	**5**	**34**	**173**
Connecticut	134	16	118	17	2	1	3	23
Maine	159	46	113	30	7	2	15	54
Massachusetts	197	34	163	37	5	1	4	47
New Hampshire	79	16	63	16	2	1	6	25
Rhode Island	23	9	14	7	0	0	0	7
Vermont	70	20	50	10	1	0	6	17

*United States total excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific.
[1]Among all airports open to the public, either privately or publicly owned.

Source: FAA

(Continued from page 20)

FAA Region and State	Total Facilities	Total Facilities, By Ownership		Airports Open to Public Use				
				Paved Airports[1]		Unpaved Airports[1]		Total Airports
		Public	Private	Lighted	Unlighted	Lighted	Unlighted	
Northwest Mountain—								
Total	**1,808**	**680**	**1,128**	**397**	**59**	**28**	**153**	**637**
Colorado	373	90	283	63	5	5	9	82
Idaho	211	131	80	45	9	1	64	119
Montana	227	123	104	70	9	11	34	124
Oregon	378	102	276	57	19	4	20	100
Utah	112	60	52	40	6	0	2	48
Washington	411	126	285	88	10	6	19	123
Wyoming	96	48	48	34	1	1	5	41
Southern—Total	**2,364**	**820**	**1,544**	**631**	**55**	**24**	**67**	**777**
Alabama	203	97	106	87	5	4	6	102
Florida	698	160	538	98	7	6	16	127
Georgia	375	135	240	99	9	1	4	113
Kentucky	144	69	75	52	10	1	6	69
Mississippi	207	89	118	70	10	2	4	86
North Carolina	336	93	243	84	6	5	22	117
Puerto Rico	29	17	12	10	1	0	0	11
South Carolina	146	66	80	56	2	4	6	68
Tennessee	218	88	130	73	5	1	3	82
Virgin Islands	8	6	2	2	0	0	0	2
Southwest—Total	**2,884**	**807**	**2,077**	**624**	**55**	**14**	**97**	**790**
Arkansas	236	111	125	81	9	0	7	97
Louisiana	413	100	313	67	3	1	9	80
New Mexico	170	77	93	45	10	0	14	69
Oklahoma	403	161	242	111	12	7	22	152
Texas	1,662	358	1,304	320	21	6	45	392
Western—Total	**1,400**	**518**	**882**	**303**	**69**	**4**	**62**	**438**
Arizona	273	92	181	53	7	0	15	75
California	922	317	605	204	48	1	10	263
Hawaii	48	17	31	10	3	0	0	13
Nevada	122	65	57	25	8	3	24	60
South Pacific**	35	27	8	11	3	0	13	27

*Excludes Puerto Rico, Virgin Islands, N. Mariana Islands, and South Pacific

**American Samoa, Guam, and Trust Territories.

[1]Among all airports open to the public, either publicly or privately owned.

Source: FAA

FAA Air Route Facilities and Services: 1972 through 1991

December 31,	VOR VORTAC	Nondirectional Beacons	Air Route Traffic Control Centers	Airport Traffic Control Towers	Flight Service Stations	International Flight Service Stations	Instrument Landing Systems	Airport Surveillance Radar
1972	991	706	27	355	324	7	403	125
1973	995	739	27	403	315	7	467	142
1974	1,000	793	27	417	320	7	490	156
1975	1,011	848	26	487	321	7	580	177
1976	1,020	920	25	488	321	7	640	175
1977	1,021	959	25	495	319	7	678	182
1978	1,020	988	25	494	319	6	698	185
1979	1,028	1,015	25	499	318	6	753	192
1980	1,037	1,055	25	502	317	6	796	192
1981	1,033	1,123	25	501	316	6	840	199
1982	1,029	1,143	25	492	316	6	884	197
1983	1,032	1,183	25	494	316	5	934	197
1984	1,035	1,211	25	497	310	5	955	197
1985	1,039	1,222	25	500	302	4	968	198
1986	1,043	1,239	25	686	293	3	977	312
1987	1,045	1,262	25	686	253	3	1,111	312
1988	1,043	1,287	24	692	220	3	1,130	311
1989	1,044	1,263	24	693	199	3	1,147	312
1990	1,044	1,309	24	691	180	3	1,114	318
1991	1,044[1]	1,323[2]	24[3]	692[4]	175	3	1,185[5]	318[6]

[1]Includes 73 nonfederal and 38 military.

[2]Includes 951 nonfederal and 69 military.

[3]Includes 3 combined center radar approach control facilities (CERAP).

[4]Includes 66 nonfederal and 207 military.

[5]Includes 21 Landing Directional Aids (LDA), 163 nonfederal, 23 military, 204 partial, 5 Interim Microwave Landing Systems (ISMLS), and 30 Simplified Direction Finders (SDF).

[6]Includes FAA, military and nonfederal.

FORECASTS AND OTHER INFORMATION

Estimated Active General Aviation Aircraft
(In Thousands)

As of December 31	Fixed Wing				Rotorcraft		Other	Total
	Piston							
	Single Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine		
Historical								
1985	164.4	23.8	5.4	4.4	2.9	3.5	6.3	210.7
1986	171.8	23.9	6.0	4.5	2.9	4.0	7.0	220.0
1987	171.0	23.4	5.3	4.4	2.8	3.5	6.8	217.2
1988	164.8	22.8	5.3	4.2	2.6	3.8	6.9	210.3
1989	170.4	23.4	6.3	4.4	3.2	4.2	7.7	219.7
1990	165.1	22.7	5.6	4.4	3.5	3.9	7.0	212.2
Forecast								
1991	163.1	22.4	5.7	4.5	3.6	4.2	7.0	210.5
1992	163.1	22.4	5.8	4.6	3.5	4.5	7.2	211.1
1993	163.8	22.4	6.0	4.7	3.4	4.8	7.5	212.6
1994	164.5	22.5	6.2	4.8	3.3	5.1	7.8	214.2
1995	165.2	22.5	6.4	4.9	3.2	5.5	8.1	215.8
1996	165.9	22.6	6.6	5.0	3.2	5.7	8.4	217.4
1997	166.4	22.7	6.8	5.1	3.2	6.0	8.7	218.9
1998	166.9	22.8	7.0	5.2	3.1	6.4	8.8	220.2
1999	167.4	22.9	7.2	5.3	3.0	6.8	9.0	221.6
2000	167.7	23.0	7.5	5.4	3.0	7.2	9.1	222.9
2001	168.0	23.1	7.8	5.5	2.9	7.6	9.3	224.2
2002	168.3	23.2	8.1	5.6	2.8	8.0	9.5	225.5

Source: FAA

Notes: Detail may not add to total because of independent rounding. An active aircraft must have a current registration and it must have been flown at least one hour during the previous calendar year.

Forecast Active Pilots by Type of Certificate
(In Thousands)

As of December 31	Student	Recreational[2]	Private	Commercial	Airline Transport	Helicopter	Glider	Lighter-Than-Air[3]	Total	Instrument Rated[1]
Forecast										
1991	130.1	0.1	301.8	153.4	111.5	9.8	8.1		714.8	300.6
1992	131.5	0.2	303.9	155.7	115.1	10.0	8.2		724.6	304.2
1993	138.0	0.3	304.8	157.3	118.6	10.1	8.3		737.5	308.8
1994	146.2	0.4	305.4	158.8	122.6	10.2	8.4		752.0	313.4
1995	147.4	0.5	306.0	160.5	127.1	10.4	8.4		760.3	317.5
1996	148.3	0.6	306.9	162.1	131.7	10.5	8.5		768.6	321.3
1997	149.0	0.6	307.8	163.7	136.6	10.6	8.5		776.9	326.1
1998	149.6	0.7	307.8	165.3	140.3	10.7	8.6		783.9	330.4
1999	150.1	0.8	309.7	167.0	144.0	10.8	8.6		791.0	334.7
2000	150.1	0.8	310.7	168.6	147.9	10.9	8.6		797.7	337.7
2001	151.1	0.8	311.6	170.3	150.9	11.0	8.7		804.5	340.4
2002	151.5	0.9	312.5	172.0	153.9	11.2	8.8		810.8	342.4

Source: FAA

[1]Instrument rated pilots should not be added to other categories in deriving total.

[2]Recreational rating not available until 1991.

[3]Lighter-than-air type rating is no longer issued after 1990.

Notes: Detail may not add to total because of independent rounding.

FLIGHT HOURS FORECAST—

General Aviation Hours Flown
(In Millions)

Fiscal Year	Fixed Wing				Rotorcraft		Other	Total
	Piston							
	Single Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine		
Historical*								
1986	22.2	4.9	2.7	1.7	0.8	1.8	0.4	34.5
1987	22.3	4.9	2.2	1.6	0.6	1.6	0.4	33.6
1988	22.0	4.4	2.3	1.6	0.6	2.0	0.6	33.6
1989	22.2	4.6	2.9	1.7	0.7	2.1	0.5	34.7
1990	23.3	4.4	2.7	1.5	0.8	1.7	0.4	34.8
1991E	23.8	4.3	2.6	1.6	0.8	1.7	0.4	35.2
Forecast								
1992	24.1	4.3	2.6	1.6	0.8	1.8	0.4	35.6
1993	24.2	4.4	2.7	1.6	0.8	2.0	0.4	36.2
1994	24.3	4.4	2.8	1.7	0.8	2.3	0.5	36.7
1995	24.3	4.5	2.9	1.7	0.8	2.4	0.5	37.0
1996	24.4	4.5	3.0	1.7	0.8	2.7	0.5	37.6
1997	24.4	4.5	3.1	1.7	0.8	2.9	0.6	38.1
1998	24.5	4.5	3.1	1.8	0.8	3.0	0.6	38.4
1999	24.6	4.6	3.3	1.8	0.8	3.2	0.7	39.1
2000	24.7	4.6	3.4	1.8	0.7	3.3	0.7	39.3
2001	24.8	4.6	3.5	1.8	0.7	3.4	0.7	39.6
2002	24.9	4.6	3.6	1.9	0.7	3.6	0.7	40.0
2003	25.0	4.6	3.7	1.9	0.7	3.7	0.8	40.5

E – Estimate

Source: FAA

Notes: Detail may not add to total because of independent rounding.

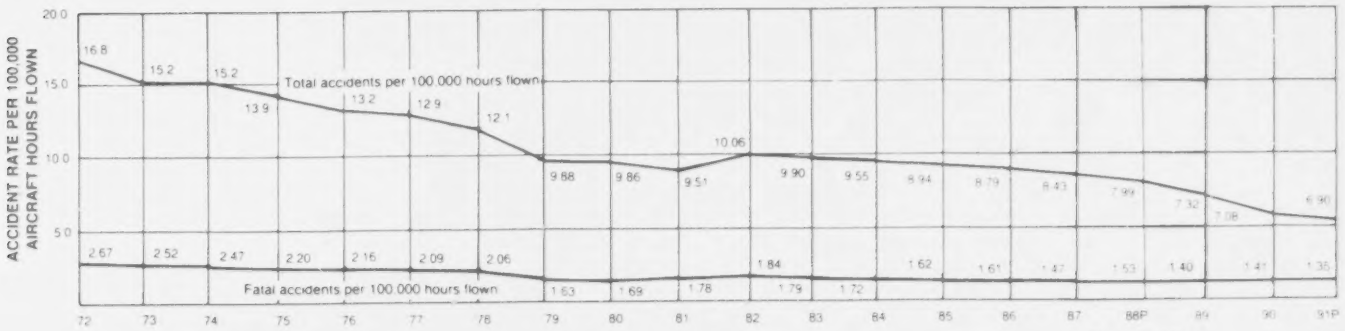
FUEL USE FORECAST—

General Aviation Aircraft Fuel Consumption
(In Millions of Gallons)

Fiscal Year	Fixed Wing				Rotorcraft		Other	Total
	Piston							
	Single Engine	Multi-Engine	Turboprop	Turbojet	Piston	Turbine		
Historical*								
1986	242.0	157.8	230.0	451.4	11.0	56.7	0.1	1,149.0
1987	236.5	148.5	197.3	409.4	10.1	55.4	0.1	1,057.3
1988	235.4	148.5	189.1	409.4	10.1	55.4	0.1	1,048.0
1989	180.0	143.9	250.9	443.6	8.7	71.5	0.1	1,098.6
1990	189.1	137.8	227.4	413.4	9.5	59.2	0.1	1,036.5
1991E	192.9	135.0	220.6	419.6	9.6	59.2	0.1	1,037.0
Forecast								
1992	195.2	135.0	225.7	428.4	9.6	62.6	0.1	1,056.6
1993	196.4	137.7	233.6	435.7	9.6	68.9	0.1	1,082.0
1994	197.2	137.7	238.3	442.7	9.6	79.2	0.1	1,104.8
1995	197.2	140.5	244.7	449.8	9.6	80.9	0.1	1,122.7
1996	198.0	140.5	252.0	457.0	9.6	91.2	0.1	1,148.3
1997	198.0	143.3	260.3	463.8	9.6	98.1	0.1	1,173.2
1998	198.8	143.3	268.4	470.8	9.6	103.4	0.1	1,194.4
1999	199.6	146.1	277.3	478.3	9.6	110.4	0.2	1,221.4
2000	200.4	146.1	287.3	485.5	9.0	113.6	0.2	1,242.0
2001	201.0	146.1	297.3	492.8	9.0	117.0	0.2	1,263.3
2002	201.6	146.1	307.7	500.1	9.0	123.5	0.2	1,288.3
2003	202.2	146.1	318.5	507.7	9.0	126.7	0.2	1,310.4

*Source: FAA

Accident Rates in U.S. General Aviation (1972–1991)



1988, 1989—Preliminary

Source—NTSB

1990 General Aviation Total Fuel Consumed and Average Fuel Consumption Rate By Aircraft Type

Aircraft Type	Average Rate GPH	Estimated Fuel Use (mil gal)	Percent Standard Error
Fixed Wing			
Fixed Wing—Piston			
1 Eng: 1-3 Seats	6.6	63.9	4.0
1 Eng: 4 + Seats	11.0	156.5	2.8
1 Engine: Total	8.5	220.4	2.3
2 Eng: 1-6 Seats	28.4	63.5	6.6
2 Eng: 7 + Seats	34.8	55.3	7.3
2 Engine: Total	31.7	118.8	4.9
Piston: Other	60.0	3.3	50.6
Piston: Total	**12.9**	**342.5**	**2.3**
Fixed Wing—Turboprop			
2 Eng: 1-12 Seats	85.3	121.7	6.9
2 Eng: 13 + Seats	116.1	74.6	16.1
2 Engine: Total	95.7	196.3	7.5
Turboprop: Other	47.3	8.0	10.8
Turboprop: Total	**90.8**	**204.4**	**7.2**
Fixed Wing—Turbojet			
2 Engine: Total	248.2	357.3	7.2
Turbojet: Other	388.8	60.8	12.7
Turbojet: Total	**265.2**	**418.1**	**6.5**
Fixed Wing: Total	**49.0**	**965.0**	**3.3**
Rotorcraft			
Piston	10.7	9.5	10.6
Turbine	29.5	40.3	9.6
Rotorcraft: Total	**19.8**	**49.8**	**8.1**
Other Aircraft*	3.9*	1.1*	10.5*
Total	**45.8**	**1,016.0**	**3.2**
Total: Jet Fuel	139.7	662.9	4.7
Total: Aviation Gasoline	12.7	353.1	2.3

Source: FAA

Note: Row and column summations may differ from printed totals due to estimation procedures.

GAMA MEMBERS

General Aviation Manufacturers Association

The General Aviation Manufacturers Association (GAMA)—a national trade association headquartered in Washington, D.C., represents 32 U.S. manufacturers of general aviation aircraft, engines, avionics, and related items.

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Brisbane, CA 94941
(415) 468-1705

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Torrance, CA 90509
(310) 323-9500

Allison Gas Turbine Division
General Motors
P.O. Box 420
Indianapolis, IN 46206
(317) 230-5786

American General Aircraft Corporation
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Greenville, MS 38704
(601) 332-2422

Aviation Simulation Technology, Inc.
Hanscom Field-East
Bedford, MA 01730
(617) 274-6600

Beech Aircraft Corporation
P.O. Box 85
Wichita, KS 67201-0085
(316) 681-7111

BFGoodrich Aerospace
250 N. Cleveland-Massillon Road
Akron, OH 44313-0501
(216) 374-2200

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P.O. Box 610
Mineral Wells, TX 76067
(817) 325-2517

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P.O. Box 7704
Wichita, KS 67277
(316) 941-6000

Collins Commercial Avionics
Rockwell International
400 Collins Road, N.E.
Cedar Rapids, IA 52498
(319) 395-1000

Elano Corporation
2070 Heller Drive
P.O. Box 217
Alpha, OH 45301-0217
(513) 426-0621

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San Antonio, TX 78279-0490
(512) 824-9421

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Marine Air Terminal
LaGuardia Airport
New York, NY 11371-1061
(718) 565-4100

Global-Wulfsberg Systems
Sundstrand Data Control, Inc.
Sundstrand Corporation
P.O. Box 97001, M-S 2
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(206) 885-3711

Gulfstream Aerospace Corporation
P.O. Box 2206
Savannah, GA 31402
(912) 964-3000

Hartzell Propeller Inc.
One Propeller Place
Piqua, OH 45356-2634
(513) 778-4200

Honeywell Inc.
Business & Commuter Aviation Systems Division
P.O. Box 29000
Phoenix, AZ 85038
(602) 436-8000

Jeppesen Sanderson, Inc.
55 Inverness Drive East
Englewood, CO 80112-5498
(303) 799-9090

Learjet Inc.
P.O. Box 7707
Wichita, KS 67277-7707
(316) 946-2000

Marathon Power Technologies
P.O. Box 8233
Waco, TX 76714-8233
(817) 776-0650

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Louis Schriener Field
Box 72
Kerrville, TX 78029

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Parker Bertea Aerospace Group
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18118 Chesterfield Airport Road
Chesterfield, MO 63005-1121
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P.O. Box 619119
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Aircraft Products Division
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P.O. Box 90
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Williamsport, PA 17701
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